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TITLE: HIGH-STRENGTH FIBER ROPE

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INVENTOR-INFORMATION:

| NAME | COUNTRY |
|------------------|---------|
| MURASE, HIROTAKA | |
| KIRIYAMA, KOHEI | |
| ABE, YUKIHIRO | |

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ABSTRACT:

PROBLEM TO BE SOLVED: To provide a high-strength fiber rope that is made of polybenzazole fiber that causes a low level of strength degradation when it is exposed to high temperature and high humidity conditions for a long period of time, even after the fiber is damaged and kink band is generated.

SOLUTION: An organic pigment that has high heat resistance with a thermal decomposition temperature of $\geq 200^{\circ}\text{C}$ and dissolves in mineral acid, preferably bears -H- and/or NH- groups in its molecular structure, particularly perinone and/or perylene, phthalocyanine or quinacridone is included in the fiber thereby polybenzazole fiber having a strength retention rate of $\geq 80\%$ is obtained after the fiber is twisted at a twist factor of 30, and then treated under the conditions of a temperature of 80°C and a relative humidity of 80% for 240 hours.

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